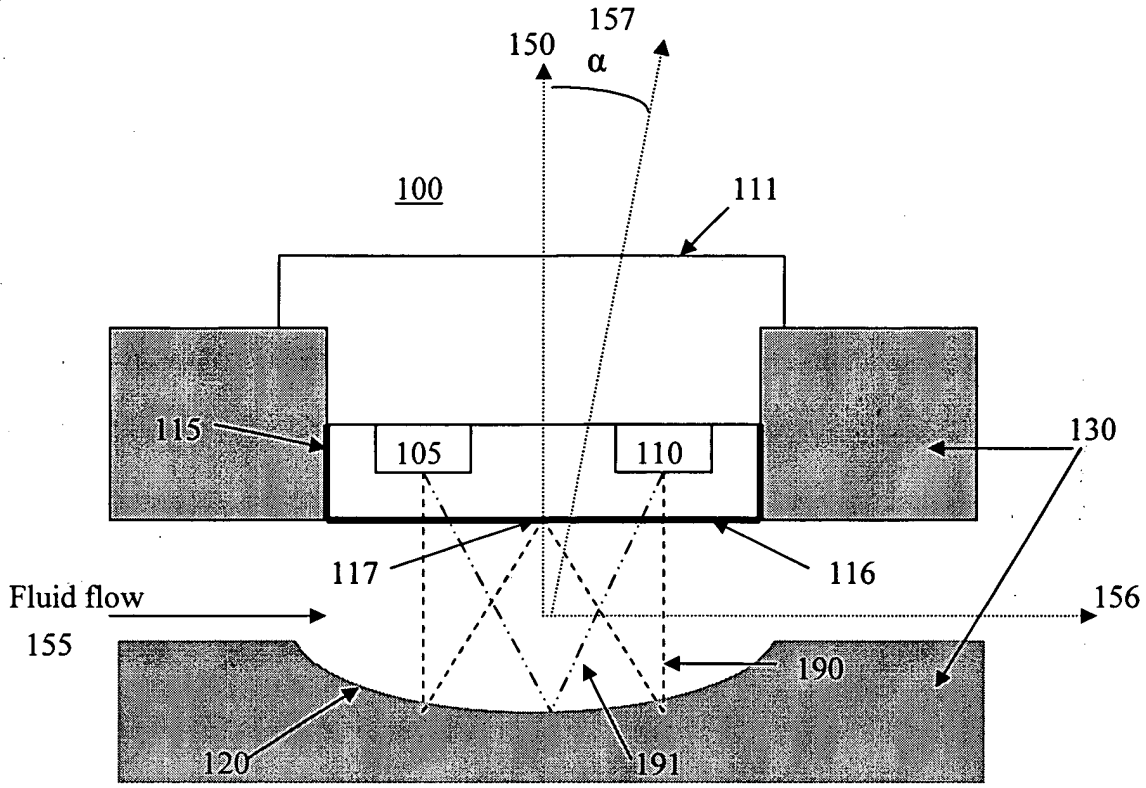
157
150
α
100
111
115
105
110
130
117
116
Fluid flow
155
156
190
120
191

Figure 1

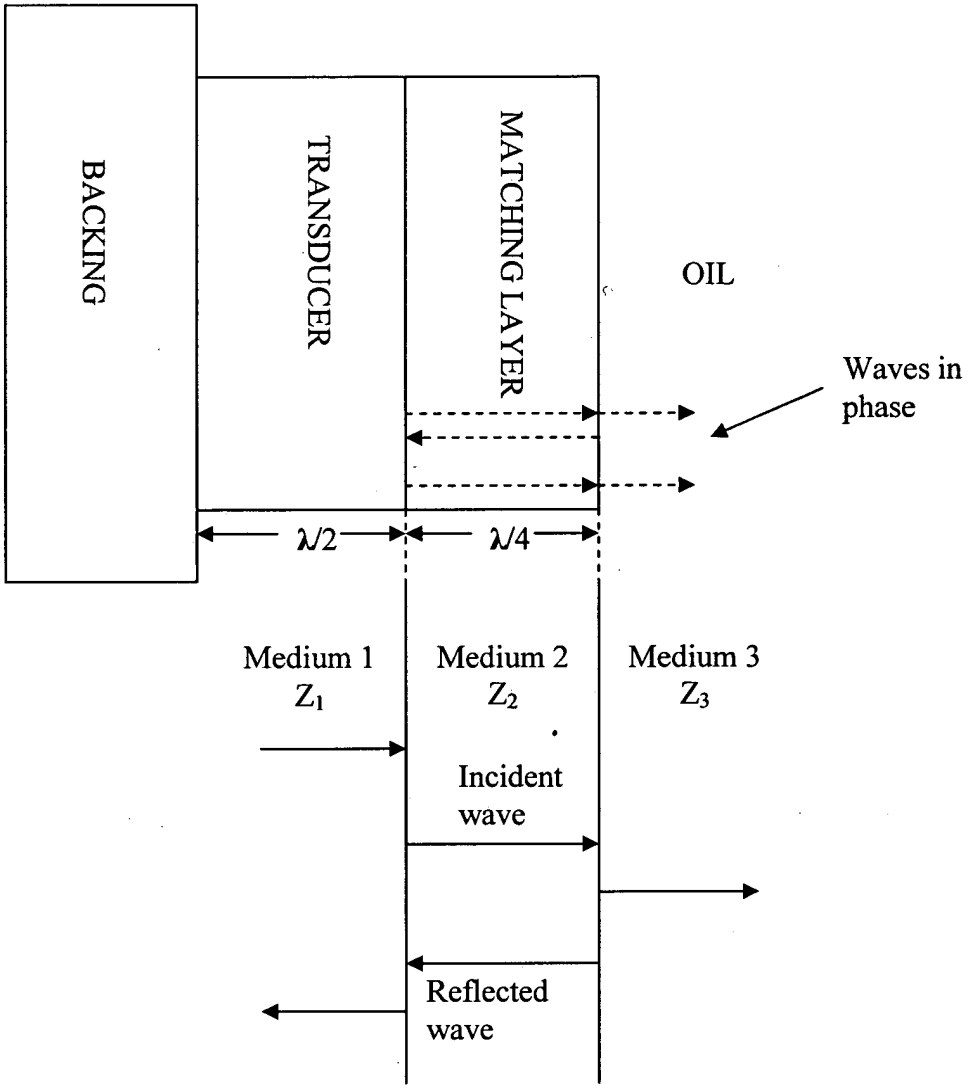
BACKING
TRANSDUCER
MATCHING LAYER
OIL
Waves in phase
λ/2
λ/4
Medium 1
Z_1
Medium 2
Z_2
Medium 3
Z_3
Incident wave
Reflected wave

Figure 2

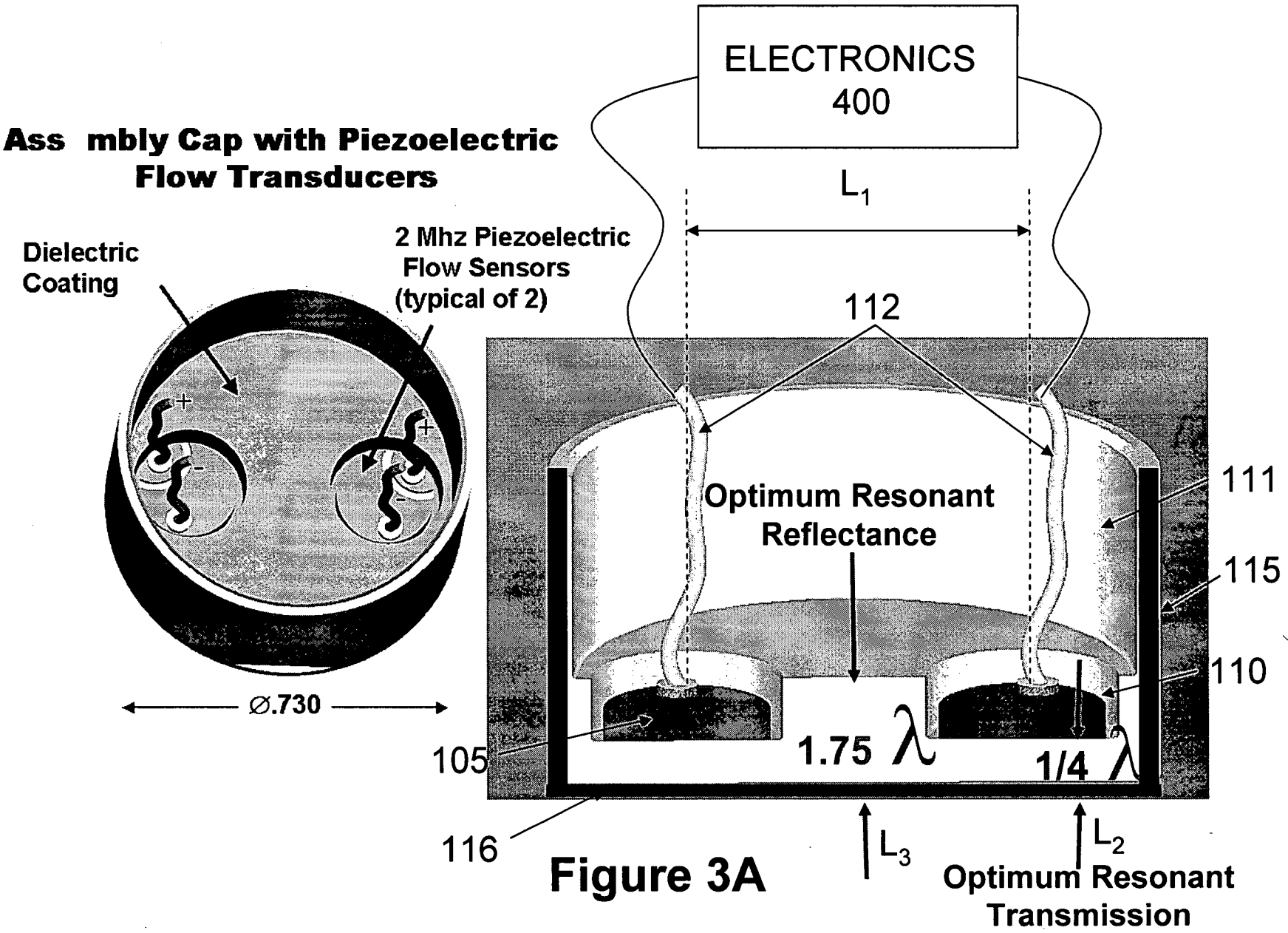

Figure 3A

PILLSBURY WINTHROP LLP, LOS ANGELES
Title: SINGLE-BODY DUAL-CHIP ...
Attorney Name: Roger R. Wise
Tel.: (213) 488-7100 Docket No.: 71403-306011
Sheet 3 of 11

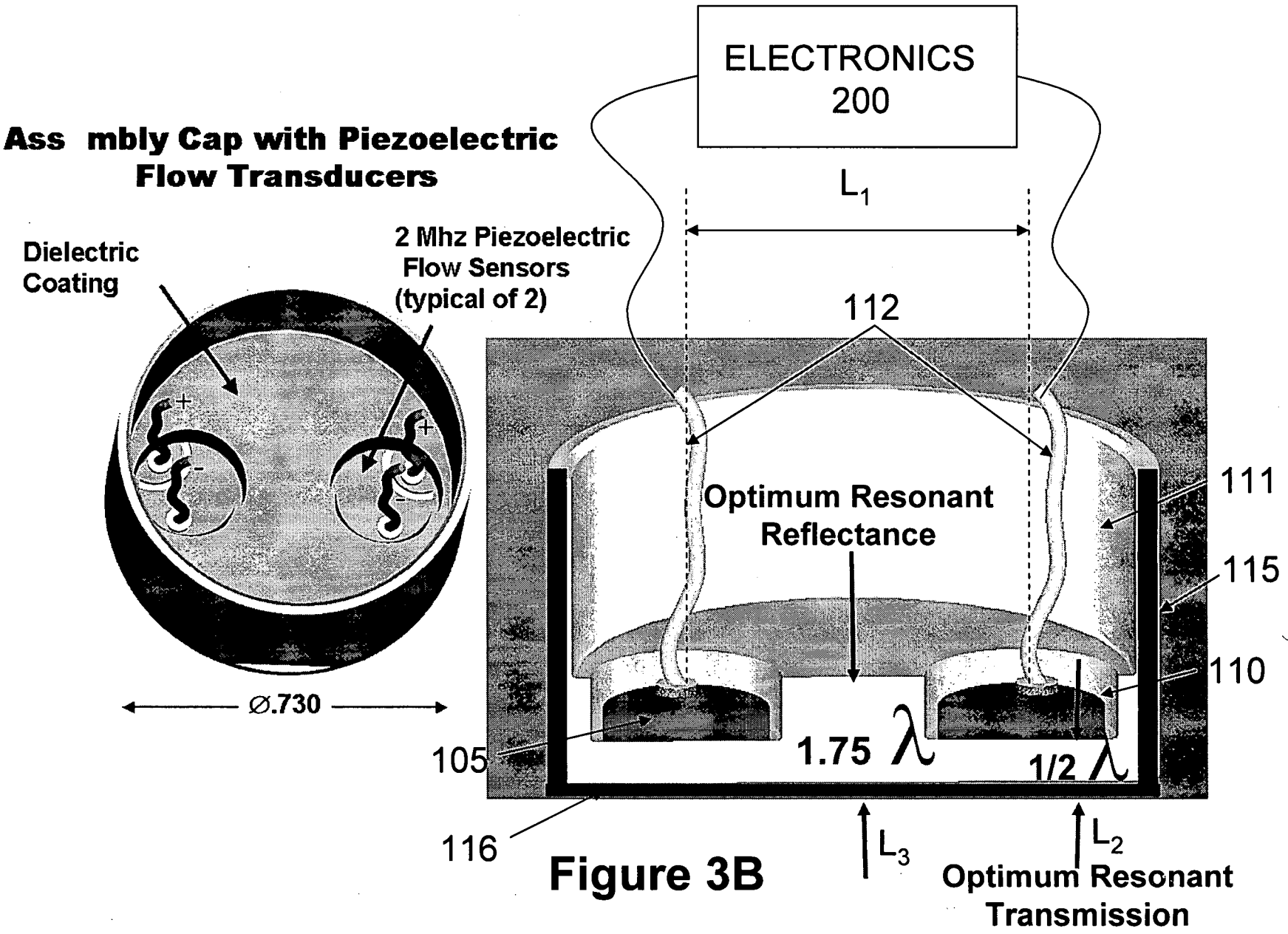

Figure 3B

PILLSBURY WINTHROP LLP, LOS ANGELES
Title: SINGLE-BODY DUAL-CHIP ...
Attorney Name: Roger R. Wise
Tel.: (213) 488-7100 Docket No.: 71403-306011
Sheet 4 of 11

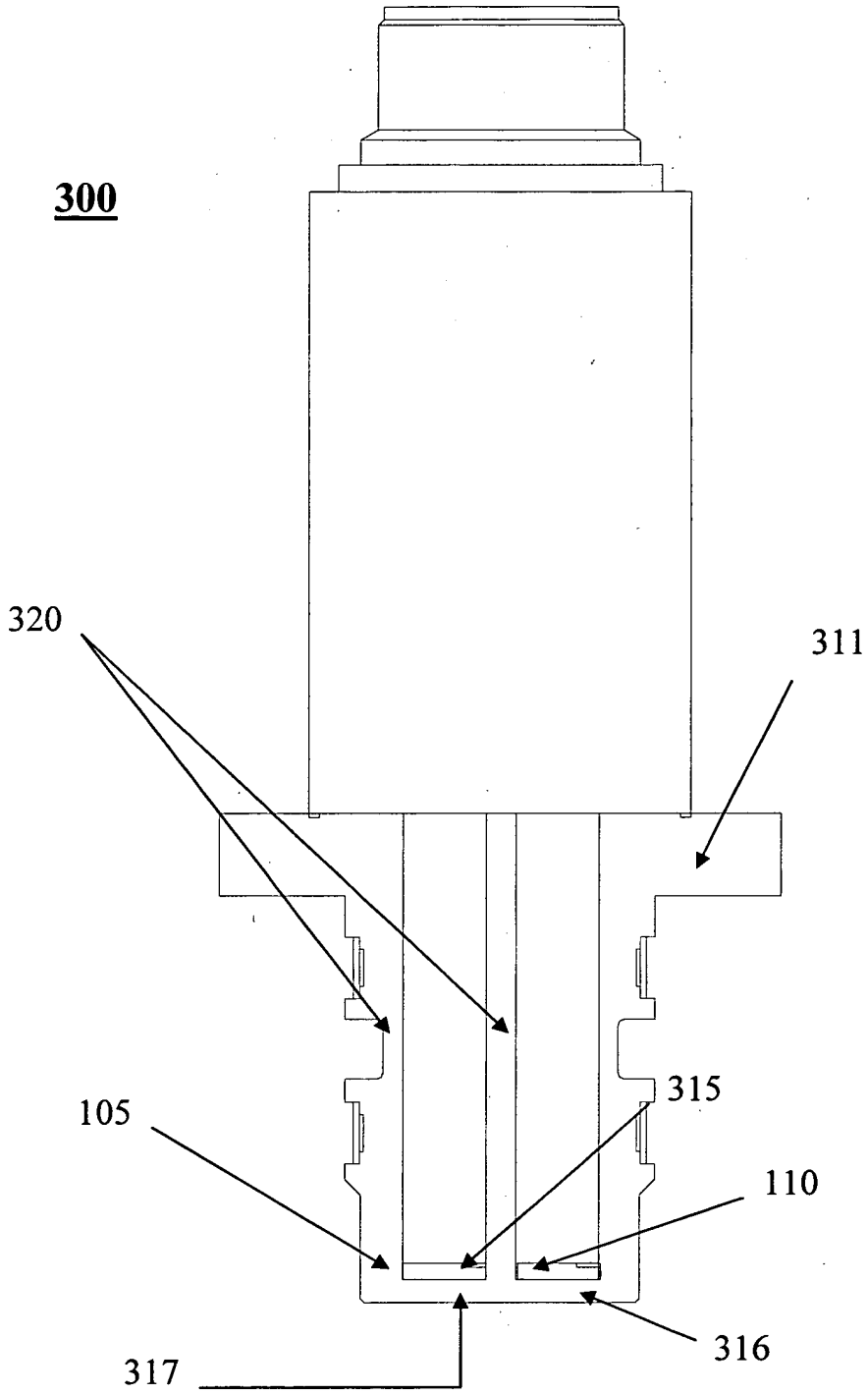

Figure 3C

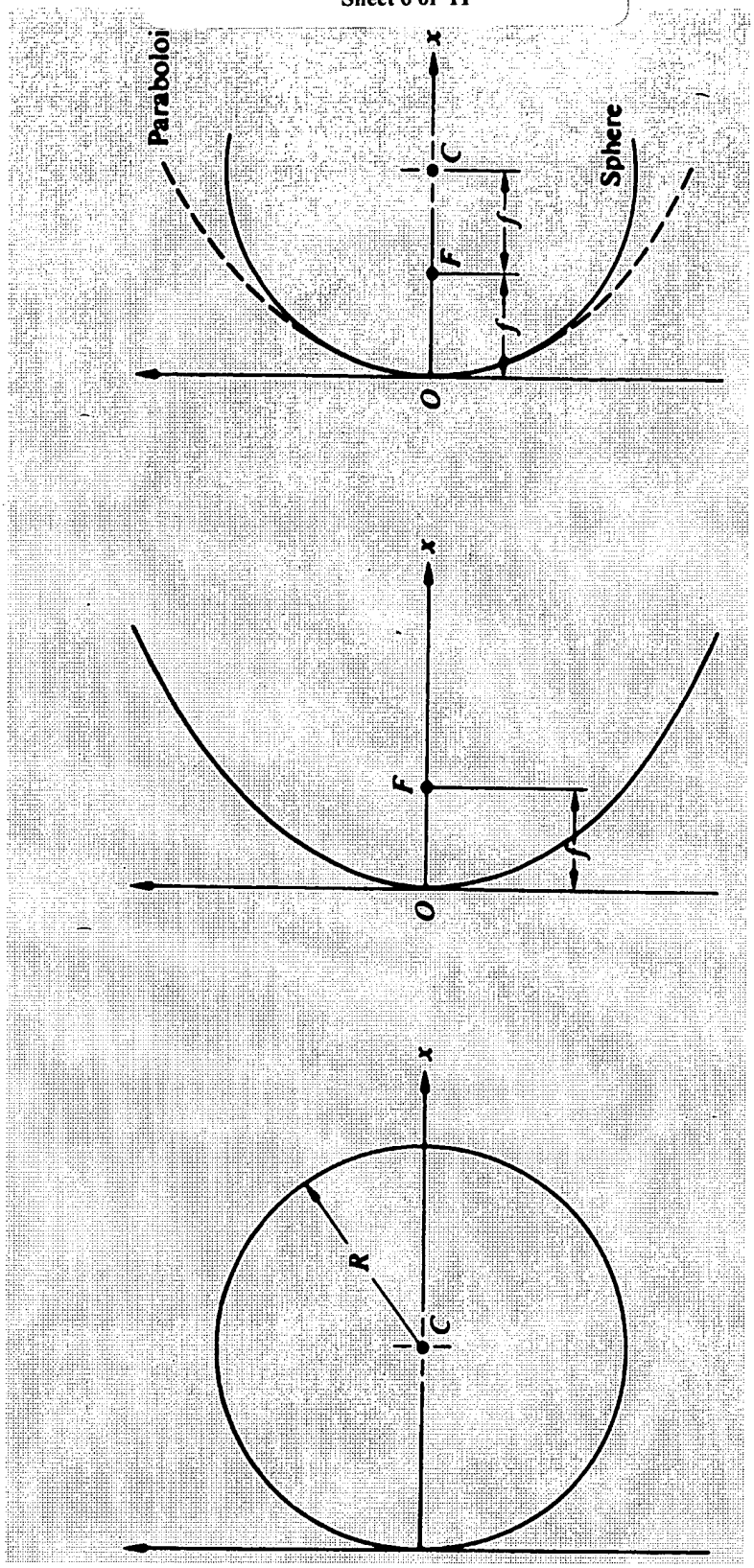

Figure 4

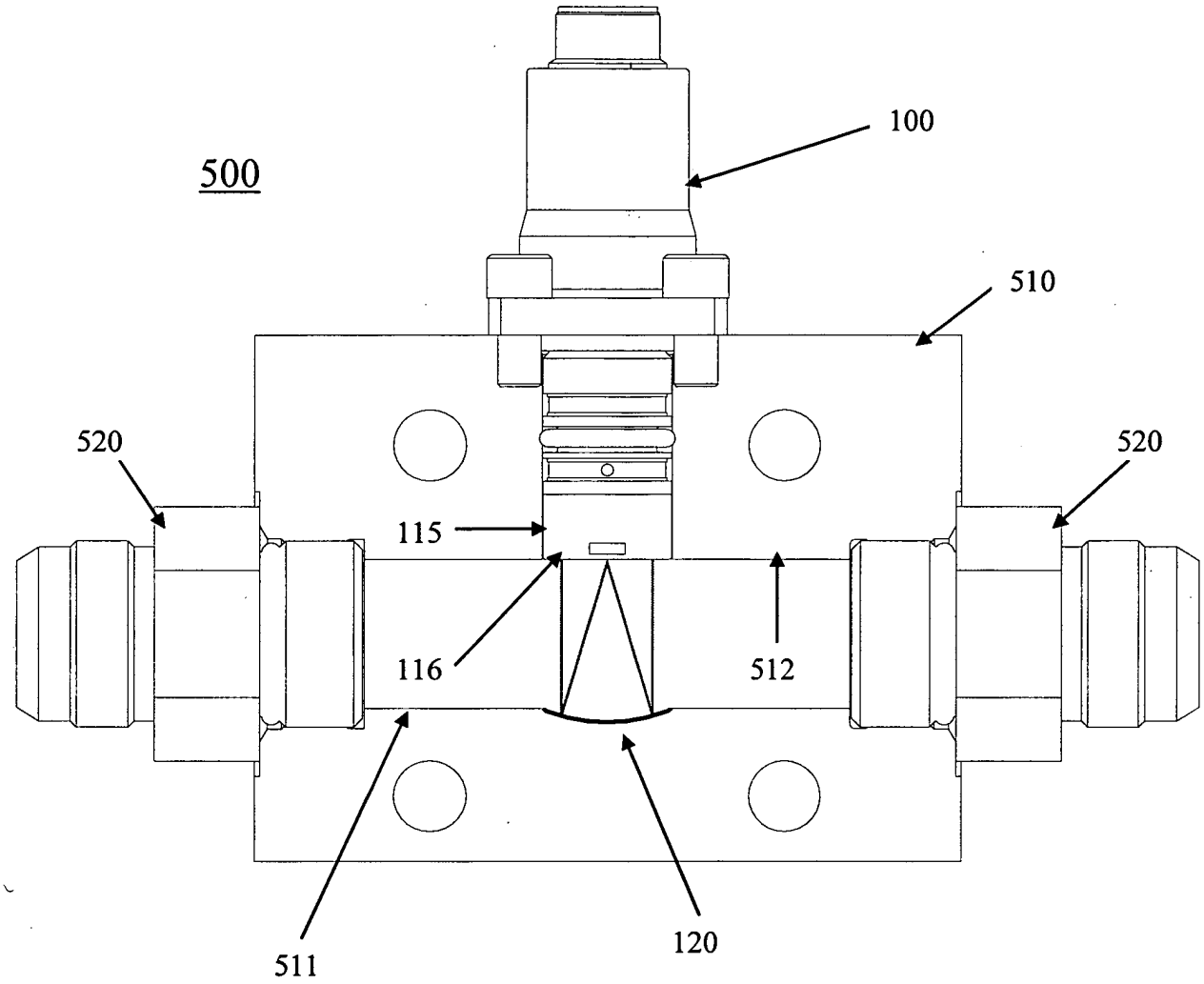

FIGURE 5

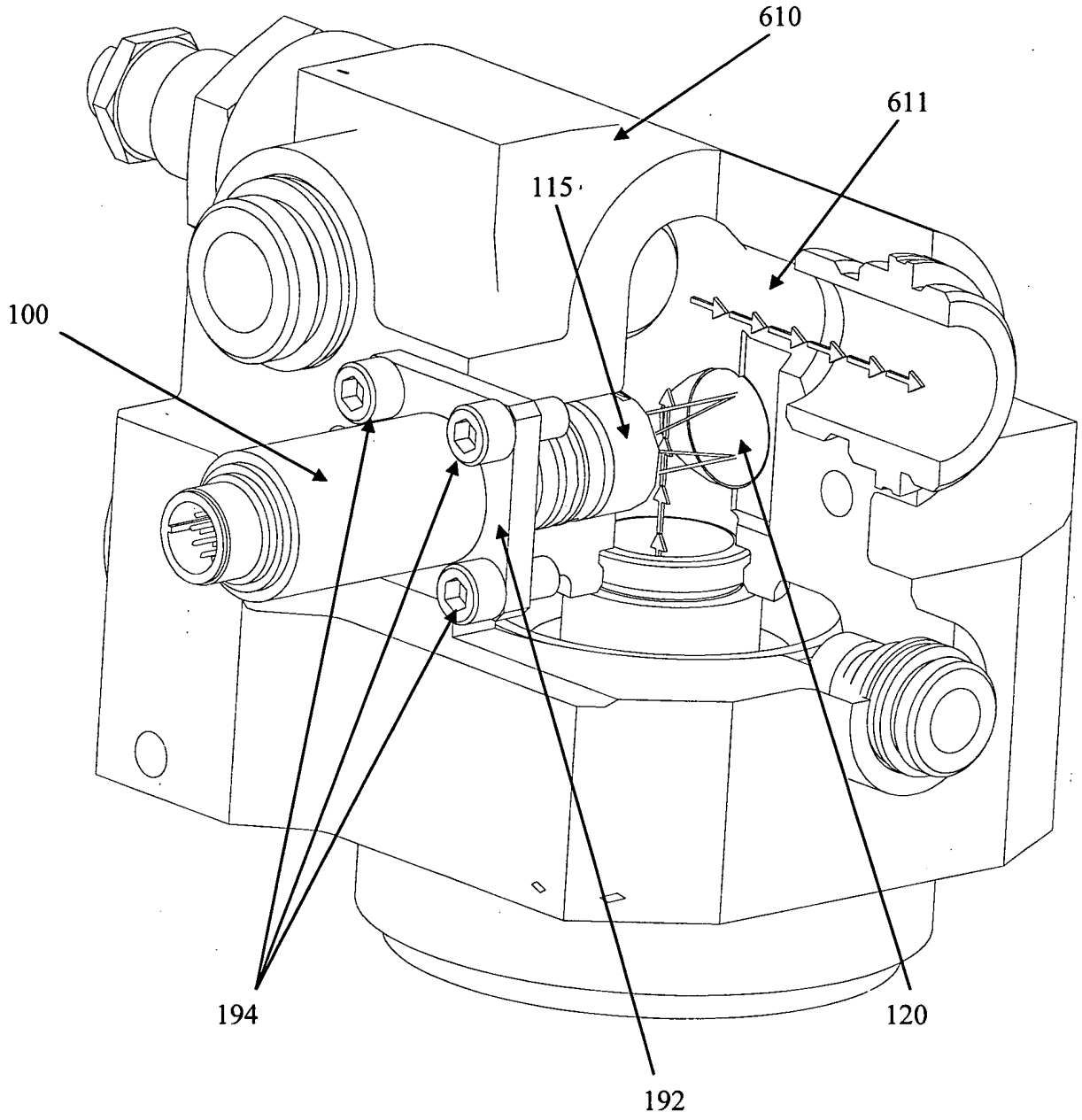

FIGURE 6

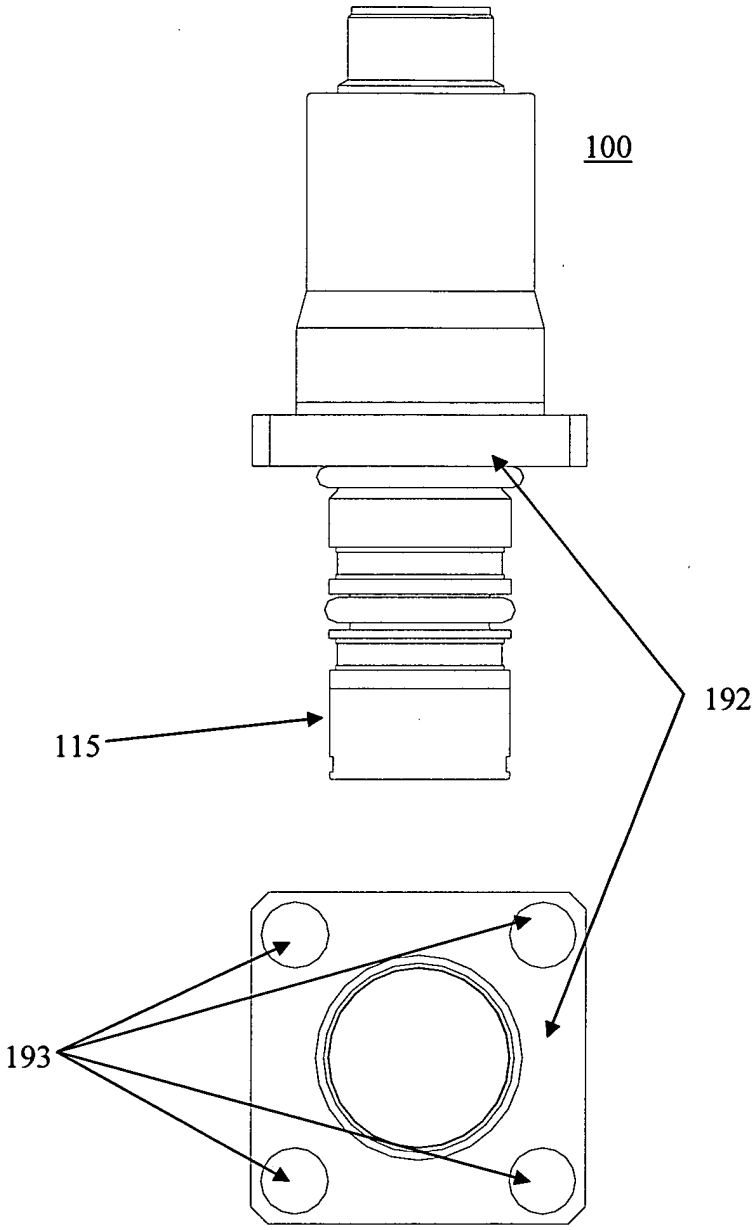

Figure 7

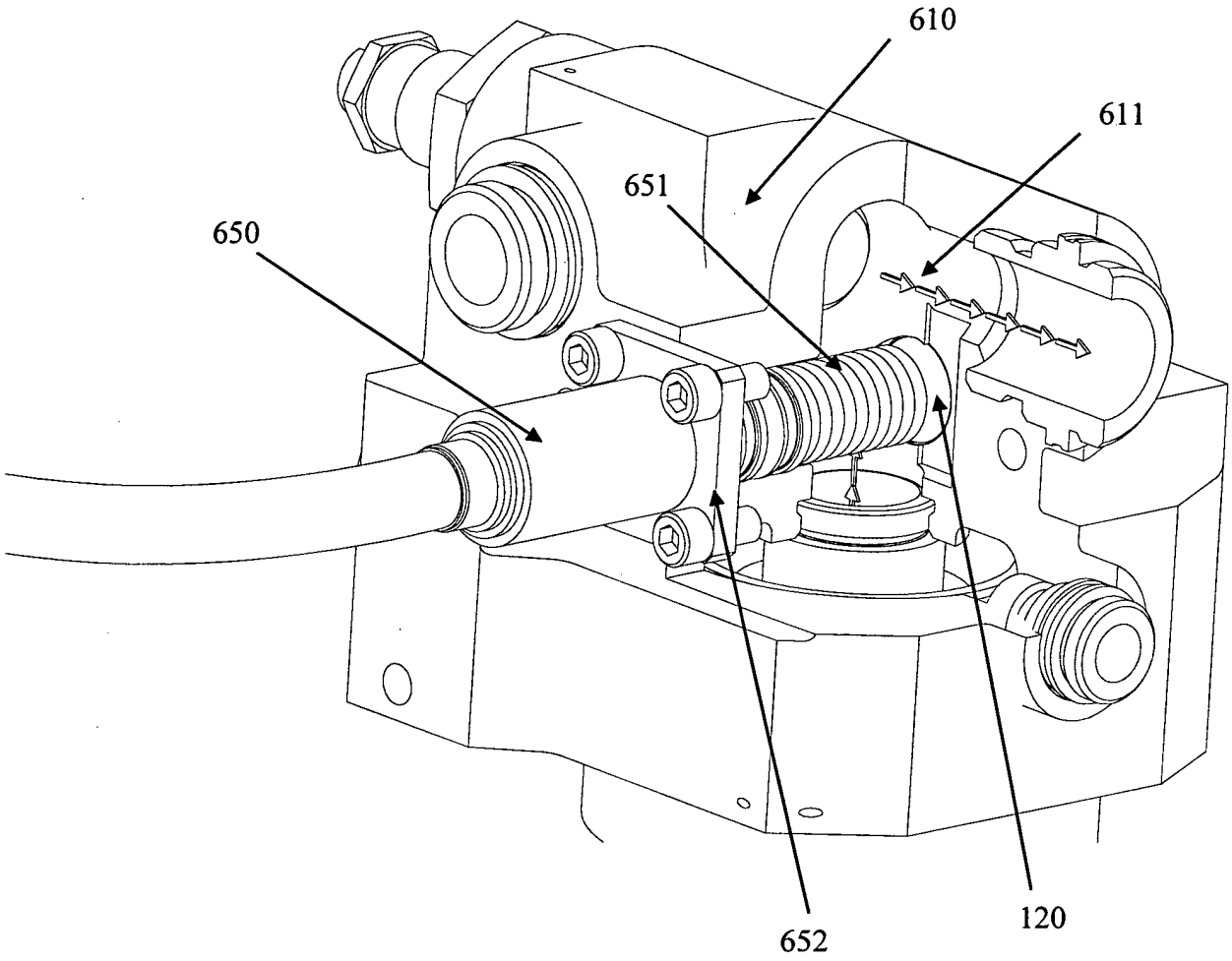

FIGURE 8

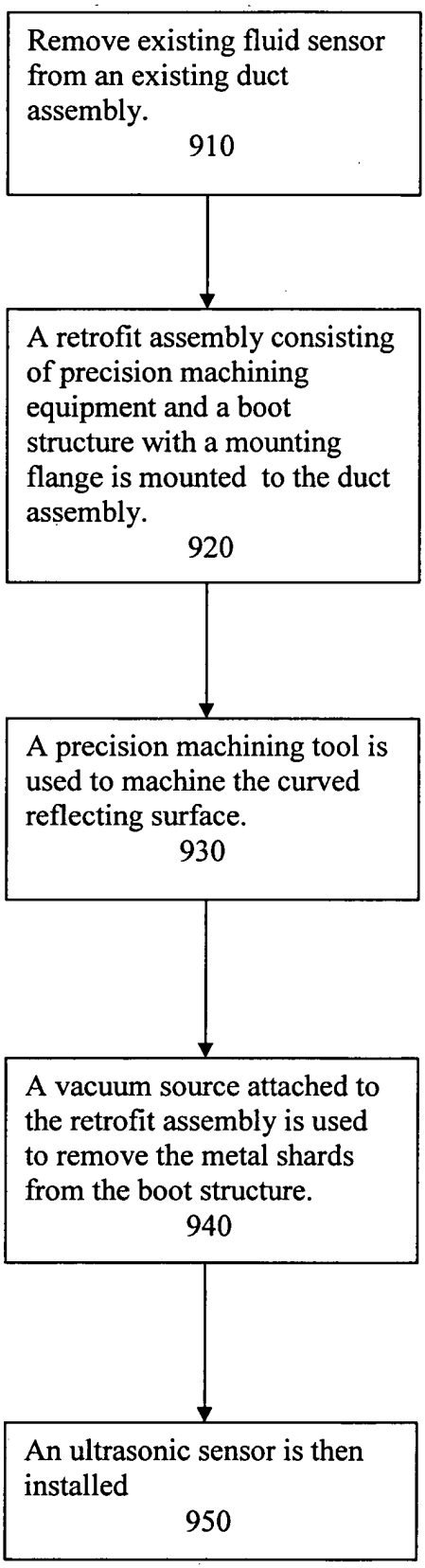
Remove existing fluid sensor from an existing duct assembly.
910
A retrofit assembly consisting of precision machining equipment and a boot structure with a mounting flange is mounted to the duct assembly.
920
A precision machining tool is used to machine the curved reflecting surface.
930
A vacuum source attached to the retrofit assembly is used to remove the metal shards from the boot structure.
940
An ultrasonic sensor is then installed
950

Figure 9